



THE A-Z OF TINNITUS AND WIDEX ZEN THERAPY

WIDEX



THE A-Z OF TINNITUS AND WIDEX ZEN THERAPY

Looking for a definition or more information related to tinnitus and Widex Zen Therapy? We've got you covered! There are various resources that can supplement some of these areas – contact your local Widex representative for these resources.



ACOUSTIC STIMULATION

Acoustic stimulation may facilitate habituation by increasing neuronal activity in the brain, reducing contrast between tinnitus and silence, and minimizing the likelihood that the brain will “overcompensate” with its own gain in the absence of auditory stimulation.

See: habituation, masking, active listening, passive listening

ACTIVE LISTENING

Active listening refers to a process in which the person attends, purposely or otherwise, to an acoustic stimulus, e.g. listening to music or the radio.

See: acoustic stimulation

ADJUSTMENT-BASED COUNSELING

Adjustment-based counseling is the process of helping the person address the emotional and psychological effects of the tinnitus. By using both active dialogue and attentive listening, the professional is better able to understand the client's perspective. Adjustment-based counseling also helps the person to identify and challenge irrational and maladaptive thoughts, beliefs, attitudes or behaviors that might contribute to distress and fear of tinnitus.

See: cognitive behavioral intervention, cognitive behavioral therapy

Resource: Widex Tinnitus Flipcharts, Introduction to Widex Zen Therapy & Widex SoundRelax, Widex Zen Therapy – 5 Easy Steps

ALL-OR-NOTHING THINKING

A thought error in which the person does not see ‘shades of gray’, i.e. the different levels of the problem they are facing and might miss the smaller positive aspects in between.

See: cognitive distortions

Resource: Widex Worksheet – Thinking Alternative Thoughts

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ALTERNATIVE THOUGHTS

A strategy in cognitive behavioral intervention in which one challenges negative thoughts and thought errors with alternative positive thoughts.

See: cognitive behavioral intervention, adjustment-based counseling, cognitive distortions

Resource: Widex Worksheet – Thinking Alternative Thoughts

AMPLIFICATION (HEARING AIDS)

Properly fitted hearing aids are effective in lowering the perception of tinnitus in about 60% of cases. There is a significant correlation between hearing loss and tinnitus, so treating the hearing loss often also helps in reducing the perception and bothersome nature of the tinnitus. Hearing aids:

- Mask or partially mask tinnitus
 - Reduce contrast between tinnitus and silence
 - Produce greater neuronal activity, i.e. brain does not “overcompensate” with gain
 - Reduce fatigue and stress
 - Enhance communication ability (reducing stress)
 - May facilitate habituation
-

AQUA

A Zen fractal tone with low pitch, restricted dynamic range, slow tempo, and a major tonality.

AUTUMN

A SoundRelax fractal tone with medium pitch, restricted dynamic range, medium tempo, and an organic timbre.

B

BANDWIDTH

Bandwidth is the width of the frequency range. It is best to use hearing aids that amplify the broadest frequency range possible, to provide amplification in the high frequencies, which matches the most tinnitus perceptions.

BLOSSOM

A SoundRelax fractal tone with medium pitch, broad dynamic range, medium tempo, and a timbre of flutes.

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BREEZE

A SoundRelax fractal tone with low pitch, restricted dynamic range, slow tempo, and a soft, pure timbre.



CATASTROPHIZING

A thought error in which negative events are treated as intolerable rather than seen in perspective, e.g. “My tinnitus is louder; I must be going deaf.”

See: cognitive distortions

Resource: Widex Worksheet – Thinking Alternative Thought

CAUSES

There are a wide variety of possible causes for tinnitus, including:

- Outer and middle ear pathologies (e.g. otitis media, head/ear trauma, otosclerosis)
- Inner ear pathologies (e.g. hearing loss, presbycusis, ototoxicity, acoustic trauma)
- Non-auditory pathologies (e.g. hypertension, thyroid disorders, high cholesterol)
- Somatic influences (e.g. temporomandibular disorders, neck dysfunction)
- Certain medications (e.g. salicylates, i.e. aspirin; some antibiotics, e.g. gentamycin)

Other factors that may exacerbate tinnitus include alcohol, nicotine and high intake of sodium.

COGNITIVE BEHAVIORAL INTERVENTION (CBI)

Cognitive behavioral intervention (CBI) incorporated in Widex Zen Therapy is inspired by aspects of cognitive behavioral therapy (CBT), but is very high-level in its approach and can be done by hearing care professionals as part of their tinnitus counseling. CBI is designed to identify unwanted thoughts and behaviors hindering natural habituation, challenge their validity, and replace them with alternative and logical thoughts and behaviors. The objective is to help the person with tinnitus realize that it is not the tinnitus that is producing their beliefs, but rather their thoughts and reactions.

See: cognitive behavioral therapy, cognitive theory, adjustment-based counseling, maladaptive thoughts, perceived problems, negative thoughts, alternative thoughts

Resource: Widex Tinnitus Flipcharts, Widex Zen Therapy – 5 Easy Steps



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COGNITIVE BEHAVIORAL THERAPY (CBT)

Cognitive behavioral intervention (CBI) is inspired by the psychological approach known as cognitive behavioral therapy (CBT). CBT helps people identify their distressing thoughts and evaluate the validity of their thoughts. This approach helps people learn how to change their distorted thinking, and when their feelings are more true to reality, they feel better. CBT is a time-intensive psychological approach, and beyond the expertise of hearing care professionals.

See: cognitive theory, cognitive behavioral intervention

COGNITIVE DISTORTIONS (THOUGHT ERRORS)

Thought errors in which one has a certain belief or thought that is not justified.

See: all-or-nothing thinking, mental filter, mind reading, jumping to conclusions, emotional reasoning, overgeneralization, disqualifying the positive, catastrophizing, should statements, personalization, labeling

Resource: Widex Worksheet – Thinking Alternative Thoughts

COGNITIVE THEORY

Cognitive theory states that the thoughts we have regarding situations or events influence how we feel emotionally. In other words, it is not the event itself that creates our emotional response, but the content of our thoughts.

See: cognitive behavioral intervention, cognitive behavioral therapy

COMBINATION DEVICES

Combination devices are wearable hearing aids that can provide both amplification and a sound generator that is able to produce noise or other acoustic stimuli.

COMMON DIFFICULTIES

Common difficulties associated with tinnitus include difficulties with sleep, concentration, focusing on speech, anxiety, and feeling annoyed, stressed, depressed, irritated and in despair.

COMPASS™ GPS

The fitting software used to program Widex hearing aids. The settings for Zen/SoundRelax programs can be adjusted in the program manager.

Resource: Widex Zen/SoundRelax Fitting Guides

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COMPRESSION THRESHOLD

The compression threshold is the lowest level at which gain reduction occurs. It is advantageous to have a low compression threshold for those with tinnitus, so that the hearing aid provides some amplification to reduce the contrast of the tinnitus to the background environment. Widex hearing aids currently have the lowest compression threshold in the industry.

CORAL

A Zen fractal tone with medium pitch, broad dynamic range, slow tempo, and a minor tonality.

D

DEEP BREATHING

A relaxation strategy in which one practices deep, rhythmic breathing.

See: relaxation strategies

DISQUALIFYING THE POSITIVE

A thought error in which one discounts positive experiences that would conflict with negative views, e.g. "I didn't think about my tinnitus today, but that was a fluke."

See: cognitive distortions

Resource: Widex Worksheet – Thinking Alternative Thoughts

DYNAMIC RANGE

Dynamic range is the difference between the loudest and softest sound of a signal (that the client can hear) and is expressed in decibels (dB).

E

EMOTIONAL REASONING

A thought error in which one assumes emotional reactions to reflect the true situation, e.g. "My tinnitus makes me feel hopeless – there is no hope."

See: cognitive distortions

Resource: Widex Worksheet – Thinking Alternative Thoughts

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F

FEEDBACK TEST

The feedback test is an in-situ test that measures hearing aid feedback risk, taking into account the hearing aid's earpiece and the person's individual ear canal acoustics. It is also used to tailor make the gain to the individual user's ear canal.

FRACTAL TECHNOLOGY

Fractal technology uses tones with no sudden changes in tonality or tempo. The tones repeat enough to sound familiar and follow appropriate rules but vary enough to not be predictable.

G

GREEN

A Zen fractal tone with medium pitch, restricted dynamic range, medium tempo, and a major tonality.

GUIDED IMAGERY

A relaxation strategy in which one imagines oneself in a very relaxing environment (e.g. lying on the beach) and visualizing the surround sensations (e.g. the smell of the ocean, the feel of the sand beneath your feet).

See: relaxation strategies

H

HABITUATION

Habituation can be thought of the process of "ignoring" (or becoming accustomed to) a stimulus without exerting any conscious effort, e.g. being unaware of the rings on your fingers. The goal is to help clients with tinnitus habituate to it, reducing the bothersome nature. This is usually achieved with a combination of acoustic stimulation and counseling.

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I

INSTRUCTIONAL COUNSELING

Instructional counseling is the process of providing the client with information about tinnitus and how one can manage it. This type of counseling helps the person to understand:

- Why the tinnitus is present (especially if it is associated with hearing loss)
- What the logical course of the tinnitus might be
- How the limbic system affects tinnitus perception and how the person's reaction impacts the ability to cope with or habituate to the tinnitus

See: limbic system, habituation

Resource: Widex Tinnitus Flipcharts,
Widex Zen Therapy – 5 Easy Steps

INTAKE PROCESS

The purpose of the intake process is to understand the person's medical history, needs, fears, and expectations for the individualization of WZT. One should gather information on the tinnitus history, otologic and medical history, reaction to tinnitus, factors affecting the tinnitus, reaction to loud sounds, sleep issues, audiological history and hearing status, diet and exercise habits, medications, previous tinnitus treatments and factors that create stress.

Resource: Widex Intake Questionnaire

J

JUMPING TO CONCLUSIONS

A thought error in which one assumes negative expectations about future events as established facts, e.g. "I am bound to have a miserable day when I hear my tinnitus when I wake up."

See: cognitive distortions

Resource: Widex Worksheet – Thinking Alternative Thoughts

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L

LABELING

A thought error in which one attaches a global label to oneself rather than to specific events or actions, e.g. “Having tinnitus (and hearing loss) makes me a disabled person.”

See: cognitive distortions

Resource: Widex Worksheet – Thinking Alternative Thoughts

LAVENDER

A Zen fractal tone with medium pitch, broad dynamic range, fast tempo, and a major tonality.

LIMBIC SYSTEM

The limbic system is the part of the brain involved in our behavioral and emotional responses. It is especially involved in behaviors that we need for survival, e.g. fight or flight responses.

LOUDNESS DISCOMFORT LEVELS (LDLS)

An audiometric tinnitus characterization test that attempts to determine the intensity level at which the person experiences discomfort. Tinnitus is often associated with loudness disorders (hyperacusis).

See: tinnitus characterization

LOUDNESS MATCHING

An audiometric tinnitus characterization test that attempts to determine the person’s perceived loudness of the tinnitus.

See: tinnitus characterization

M

MALADAPTIVE BEHAVIOR

Maladaptive behaviors are client behaviors and actions, which are not helpful to the client, in response to experiencing tinnitus, e.g. staying in bed all day, feeling depressed. These can be targeted in CBI.

See: cognitive behavioral intervention, adjustment-based counseling

Resource: Widex Worksheet – Identification of Maladaptive Behavior

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MASKING

Masking refers to an attempt to “cover up” the tinnitus with an externally generated sound.

See: acoustic stimulation

MIND READING

A thought error in which one assumes others’ thoughts without evidence, e.g. “People think I’m stupid when I ask them to repeat things I don’t hear because of my tinnitus.”

See: cognitive distortions

Resource: Widex Worksheet – Thinking Alternative Thoughts

MENTAL FILTER

A thought error in which one aspect of a complex situation is the focus of attention, while others are ignored, e.g. “I was having a good time at the party, but hearing my tinnitus ruined it all.”

See: cognitive distortions

Resource: Widex Worksheet – Thinking Alternative Thoughts

MINIMUM MASKING LEVELS (MML)

An audiometric tinnitus characterization test that determines the lowest level at which a narrow or broad band of noise fully masks the tinnitus (i.e. renders it inaudible).

See: tinnitus characterization



NEGATIVE THOUGHTS

Negative thoughts are the automatic thoughts that the client has in response to their tinnitus, e.g. “I can’t attend that party, because it will make my tinnitus worse.” This can be targeted in CBI.

See: cognitive behavioral intervention, perceived problems, maladaptive behaviors, alternative thoughts

Resource: Widex Worksheet – Identification of Negative Thoughts

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OVERGENERALIZATION

A thought error in which one believes that an event is characteristic of life in general, as opposed to the specific, e.g. “Because of my tinnitus, I was awake all night. Every night will be the same.”

See: cognitive distortions (thought errors)

Resource: Widex Worksheet – Thinking Alternative Thoughts



PASSIVE LISTENING

Passive listening is when the person does nothing, purposefully or otherwise, to attend to an acoustic stimulus (e.g. walking in a shopping mall, hearing music, but not being aware of it).

See: acoustic stimulation

PERCEIVED PROBLEMS

Perceived problems are problems that the client perceives as far worse than they are in reality, e.g. thinking that their tinnitus keeps them awake all night, but in reality, they only wake up twice. This can be targeted in CBI.

See: cognitive behavioral intervention, adjustment-based counseling

Resource: Widex Worksheet – Analyzing Perceived Problems

PERSONALIZATION

A thought error in which one assumes that one is the cause of a particular event, when other factors are responsible, e.g. “I ruined everyone’s evening because I was miserable.”

See: cognitive distortions

Resource: Widex Worksheet – Thinking Alternative Thoughts

PITCH

Pitch is the position of a single sound in the complete range of sound, i.e. across the frequency range. Many people use the term ‘pitch’ and ‘frequency’ interchangeably.



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PITCH MEASURE

An audiometric tinnitus characterization test that attempts to match the person's tinnitus as closely as possible to a specific pitch (frequency).

See: tinnitus characterization

PREVALENCE

A study in 2022 found that 740 million people worldwide have tinnitus, with more than 120 million people perceiving tinnitus to be a major problem.¹

PROGRESSIVE MUSCLE RELAXATION

A relaxation exercise in which one focuses on deliberately tensing muscle groups and releasing the tension. The intention is that the person learns to recognize when they're tensing their muscles in everyday life and consciously relaxing them.

See: relaxation strategies



RED FLAGS

If your client presents with any of these "red flags", an urgent medical consultation is required:

- Sudden hearing loss
- Unexplained unilateral hearing loss
- Pulsatile tinnitus
- Tinnitus accompanied by dizziness or vertigo
- Tinnitus with conductive hearing loss previously not diagnosed
- Depression, anxiety, or uncontrolled and extreme stress

RELAXATION STRATEGIES

Seeing as there is a strong association between stress and tinnitus, and stress is often manifested as a tightening of muscles, helping a person to relax using various relaxation strategies may help reduce the severity of the tinnitus perception.

See: progressive muscle relaxation, guided imagery, deep breathing

¹ Jarach, C.M., Lugo, A., Scala, M., van den Brandt, P.A., Cederroth, C.R., Odone, A., Garavello, W., Schlee, W., Langguth, B., & Gallus, S. (2022). Global incidence and prevalence of tinnitus. *JAMA Neurology*, 79(9), 888-900.

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S

SAND

A Zen fractal tone with medium pitch, broad dynamic range, fast tempo, and a major tonality.

SENSOGRAM

The Sensogram is the Widex in-situ measure of the person's hearing sensitivity. One should complete in-situ measures, to ensure that the settings programmed into the hearing aid are actually perceived by the listener.

SLEEP MANAGEMENT STRATEGIES

Although one should typically not wear hearing aids to bed, some clients with tinnitus might find the Zen/SoundRelax tones are helpful for relaxation and falling asleep. Other sleep management strategies include:

- Maintaining a standard bedtime and avoiding certain stimuli before bed (e.g. caffeine, alcohol, digital screens),
- Having a set pre-bedtime routine,
- Making sure that the room is dark enough and temperature is comfortable.

SHOULD STATEMENTS

A thought error in which one uses “should” and “have to” statements to provide motivation or control, e.g. “I should never have listened to loud rock music – I did this to myself.”

See: cognitive distortions

Resource: Widex Worksheet – Thinking Alternative Thoughts

SOUNDRELAX

Widex SoundRelax™ fractal tones are available in eight styles and intended for those with and without tinnitus, for relaxation, concentration, and well-being. The SoundRelax styles include relaxing tones and nature sounds that sound like different types of waves. The tones can be adjusted to the client's preferences by the HCP in the fitting software.

See: fractal technology

Resource: Widex Zen Therapy – 5 Easy Steps, SoundRelax Feature Guide, Fitting Guides



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SOUND THERAPY Sound therapy refers to the use of pleasant or calming sounds that diminish the perception of tinnitus.

SOUND TRACKER A feature in the Widex COMPASS GPS fitting software that can be used to estimate a patient's aided sensation level.

SPRING A SoundRelax fractal tone with high pitch, restricted dynamic range, medium tempo, and a soft, pure timbre. used to estimate a patient's aided sensation level.

SUBJECTIVE TINNITUS SCALE MEASURES Subjective tinnitus severity measures are designed to quantify how the person is reacting to the tinnitus and how it is affecting quality of life, identify the most bothersome aspects of the tinnitus, and establish a baseline score from which you can assess progress. For Widex Zen Therapy, the Tinnitus Functional Index (TFI) is recommended.

See: Tinnitus Handicap Inventory (THI), Tinnitus Functional Index (TFI)

SUMMER A SoundRelax fractal tone with low pitch, restricted dynamic range, medium tempo, and an organic timbre.



TEMPO Tempo is the speed or pace of a given musical piece or auditory pattern.

TIMBRE Timbre is the tone 'color' or tone quality of a musical note, sound or tone.

TINNITUS Tinnitus is the perception of sound or noise within the ears, with no external sound source.



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TINNITUS CHARACTERIZATION

Audiological tests that establish an acoustical representation of the client's perceived subjective experience. This is also sometimes called tinnitus matching.

TINNITUS CLASSIFICATION

Tinnitus is typically classified into either subjective (common) or objective (uncommon) tinnitus. Subjective tinnitus is tinnitus that only the client can hear, while objective tinnitus is tinnitus that the examiner can also hear (e.g. with a stethoscope).

TINNITUS DISTURBANCE LEVEL

The tinnitus disturbance levels are a classification of tinnitus reaction based on the person's score on the Tinnitus Functional Index (TFI) questionnaire. There are five categories, namely: minimal, mild, moderate, severe, and catastrophic. Based on which category their score is in, different components of Widex Zen Therapy are recommended.

See: Tinnitus Functional Index (TFI)

Resource: Widex Zen Therapy – 5 Easy Steps, Introduction to Widex Zen Therapy and Widex SoundRelax, Widex TFI Questionnaire

TINNITUS FUNCTIONAL INDEX (TFI)

The Tinnitus Functional Index (TFI) is a subjective tinnitus scale measuring the tinnitus impact in terms of intrusiveness, reduced sense of control, cognitive interference, sleep disturbance, auditory difficulties attributed to tinnitus, interference with relaxation, reduced quality of life and emotional distress. This is the recommended questionnaire to use as a minimum in Widex Zen Therapy.

Resource: Widex TFI Questionnaire

TINNITUS HANDICAP INVENTORY (THI)

The Tinnitus Handicap Inventory (THI) is a subjective tinnitus scale assessing the limitations (e.g. difficulty concentrating, sleep difficulties), emotional issues (e.g. anger, depression), and catastrophic reactions (e.g. desperation, inability to cope) of the person with tinnitus. This is an alternative recommended questionnaire to use in Widex Zen Therapy.

Resource: Widex THI Questionnaire

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TINNITUS MANAGEMENT TEAM

The tinnitus management team could be made up of a number of medical professionals, depending on the cause, perceived severity of the tinnitus and the associated difficulties that the client may have. Among others, team members may include:

- Audiologist / hearing care professional
- Otolaryngologist (ear-, nose- and throat-specialist)
- Physical therapist (in the case of somatic causes)
- Physician
- Psychologist / psychiatrist

TINNITUS MASKERS

Tinnitus maskers are wearable devices that emit either a broadband or narrowband noise, centred around the pitch of the tinnitus.



WIDEX ZEN THERAPY

Widex Zen Therapy (WZT) provides systematic guidelines for tinnitus management by hearing care professionals, using Widex hearing aids equipped with Zen and SoundRelax technology. It is an integrated program that addresses all three dimensions of tinnitus distress, i.e. auditory aspects, attention, and emotion.

WINTER

A SoundRelax fractal tone with medium pitch, broad dynamic range, medium tempo, and a clear timbre.



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ZEN NOISE

A broadband noise stimulus to be used for tinnitus management with the aim of achieving habituation and reducing the bothersome nature of tinnitus.

ZEN/RELAX PROGRAM

A hearing aid program that provides your client with access to the Zen/SoundRelax technology without having to use an app or an RC-DEX to change programs. However, you can only select one Zen/SoundRelax style.

ZEN+/RELAX+ PROGRAM

Hearing aid programs that provide your client with access to the Zen/SoundRelax technology. You can select up to three different Zen/SoundRelax styles. Note: the client requires a Widex hearing aid app or an RC-DEX to change between the three styles.

ZEN TONES

Widex Zen fractal tones are available in five styles and are intended to be used for tinnitus management with the aim of achieving habituation and reducing the bothersome nature of tinnitus. The tones can be adjusted to the client's preferences by the HCP in the fitting software.

See: fractal technology

Resource: Widex Zen Therapy – 5 Easy Steps, Fitting Guides



SOUND LIKE NO OTHER



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